
19 The economic impact of sporting facilities

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To those unfamiliar with the topic, the economic impact of sporting facilities may appear innocuous. Economists do not focus much attention on the economic impact of train stations or movie theatres. But unlike many other structures, most sporting facilities are built and operated using public funds. These large public subsidies devoted to the construction and operation of sports facilities, combined with the high visibility of and affection for sports stadiums in the public's minds and hearts, has pushed the issue of the economic impact of sporting facilities to the forefront of public debate.

A boom in new professional sporting stadium and arena construction in North America in the latter part of the twentieth century heightened interest in this debate. Siegfried and Zimbalist (2000) documented this explosion in new facility construction, along with the share of public spending on these construction projects. From 1910 to 1959, 22 new professional sporting facilities were built for teams in North American sports leagues, and the public share of the expense of these facilities was well under 30 per cent. From 1960 to the end of the century, more than 100 new professional sporting facilities were built, and the public share of this construction binge was over 70 per cent. In the 1990s alone, over \$11 billion was spent on new professional sporting facility construction in North America. This boom was accompanied by a boom in the construction of Minor League baseball parks and athletic facilities on college campuses, but this concurrent increase has received little attention from economists to date.

Although there are many different types of sports facilities – swimming pools, velodromes, golf courses, bowling alleys and so on – a relatively small subset of the universe of sports facilities have received the attention of economists. The literature on the economic impact of sporting facilities focuses entirely on stadiums and arenas that are home to professional baseball, basketball, football, hockey and soccer teams and the facilities put in place to host large events like the Summer and Winter Olympic Games. Economists do not focus on the economic impact of the neighbourhood tennis court because it did not take hundreds of millions of public dollars to build, and the people who use it do not claim that the surrounding neighbourhood will reap tangible economic benefits – millions of dollars in new income, thousands of new jobs – as a result of the tennis matches played on the court.

Many people care passionately about sport, and by association care passionately about the venues where sporting events take place; government decision makers spend hundreds of millions of dollars in public funds to build, operate and maintain sporting facilities, generating considerable public interest in the economic impact of sporting facilities. This topic should interest economists because of the stark dichotomy among the existing estimates of the economic impact of sporting facilities. This large literature has two distinct components – each generated by different groups – and two contradictory conclusions. Highly visible public policy debates with this amount of tension tend to be fertile ground for research.

In the past 20 years, almost every new sporting facility built with public funds has been accompanied by an 'economic impact study' detailing to the last penny and job the myriad positive tangible economic benefits that will flow into the local economy as soon as construction begins. These impact studies are designed to justify the spending of hundreds of millions of dollars on a new sporting facility and to convince opponents of these subsidies, as well as fence-sitters, that the proposed sporting facility will produce important tangible economic benefits for the community. Siegfried and Zimbalist (2000) provide a thorough summary of this literature. These impact studies are commissioned by the owners of the team seeking public funding and typically performed by consulting firms. These reports typically receive extensive attention from local print, radio and television outlets and may also be accompanied by public opinion polls showing broad local support for a new facility.

Economic impact studies share two common features: they are prospective in nature, estimating future economic benefits of one type or another and they are uniformly positive in their conclusions. Every proposed facility will pump millions of new dollars of spending into the local economy during the construction period, and when built will continue to create thousands of new jobs, raise incomes significantly, and enrich local government coffers with millions of dollars in new tax revenues.

Economic impact studies also rely heavily on 'multipliers' to generate these large positive economic impacts. Multipliers have been a part of economics since at least John Maynard Keynes, and a simple description of how multipliers work can be found in every intermediate macroeconomic theory textbook published in the past 50 years. Each dollar of direct spending in a sporting facility generates \$X in secondary or indirect spending in the surrounding community. You tip the vendor at the match \$5, he/she spends that \$5 on cigarettes at the corner store, the store owner spends it on lunch, and so on. Impact studies often use multipliers of 2 or more, assuming that the indirect economic impact will be double or triple the size of the direct economic impact. Estimates of direct spending in a sporting facility come from forecasts of attendance coupled with historical patterns of direct spending in similar types of sporting facilities. Although multiplier analysis fell out of favour in macroeconomics decades ago, after a number of methodological problems were pointed out, it is still widely used in economic impact studies of sporting facilities.

These prospective economic impact studies often contain a number of other important methodological flaws. Crompton (1995), Siegfried and Zimbalist (2000) and Hudson (2001) describe these flaws in detail. In short, these studies use inappropriately large multipliers to estimate indirect benefits, inappropriately identify costs as benefits, fail to distinguish between net and gross economic benefits, and ignore important indirect costs, including opportunity costs, associated with sports facility construction and operation. These methodological flaws are pervasive and potentially important and their existence suggests that the estimates of the tangible prospective economic benefits flowing from new sporting facilities reported in these studies may be significantly overstated. Despite these problems, economic impact studies continue to be commissioned and taken at face value by local media outlets and a sizeable fraction of the population.

Opposing the results in economic impact studies is a small but growing academic literature on the economic impact of sports facilities. While this topic had been examined by economists as early as in the essay by Okner (1974), the seminal academic work in the area is the volume edited by Noll and Zimbalist (1997), *Sports, Jobs and Taxes*, a collection of

essays examining the economic impact of sporting facilities from a number of perspectives. Most academic research on the economic impact of sporting facilities shares two common features: these studies are retrospective in nature, using econometric models of the determination of income or employment and historical data from various sources to look for evidence that past construction of new sports facilities had a detectable impact on the economy, and they almost uniformly find no evidence that sports facilities produce tangible positive economic benefits.

The retrospective academic literature has examined standard aggregate economic indicators like real per capita income or employment in Standard Metropolitan Statistical Areas (SMSAs) in the United States. The Regional Economic Information System (REIS), published by the Bureau of Economic Analysis of the United States Census Bureau is the most common data source for these studies, but some other city-specific data sources such as hotel occupancy rates and airport gate arrivals have been used. Regardless of the data source, no evidence of tangible positive economic impact associated with a new sporting facility has been published in this literature.

It would be difficult to find a more striking contrast in empirical evidence. Prospective economic impact studies forecast significant and positive economic benefits flowing from sports facilities; retrospective academic studies find no evidence of positive economic benefits, at least in terms of higher real per capita income or more employment, in economic data. Either the assumptions underlying economic impact studies must be wrong or retrospective academic research must contain important methodological flaws or use data that are poorly suited to answering the question at hand.

Interestingly, this disagreement in empirical results extends to the period during which new sporting facilities are being built, as a period when these differences might be small. Sporting facilities tend to be large structures and their construction requires hundreds of workers and can take years to complete. Some economic impact reports forecast thousands of new jobs created during the construction period. But retrospective research using time-series employment data has concluded that, at most, a handful of the hundreds of new sporting facility construction projects have created only a few hundred new jobs. This difference in empirical evidence arises from the failure of prospective economic impact studies to distinguish between new and gross job creation. While sporting facility construction projects employ hundreds or perhaps thousands of construction workers, these workers might have been employed in other construction projects if a new sporting facility was not built. Unemployment rates in construction-related occupations in many cities are quite low, suggesting that these workers have many alternative job opportunities. In this case the net effect of a new sporting facility construction project on employment will be small.

The empirical evidence in economic impact studies and retrospective econometric studies may be consistent in one area: mega-events like the Olympic Games. Hotchkiss et al. (2002) examined the impact of the 1996 Summer Olympic Games on wages and employment in and around Atlanta, Georgia. This study found that total employment in counties with Olympic sporting venues was higher during and after the games than before, although wages were unaffected. However, this evidence comes from a single city and is associated with a single event that involves a large number of sporting facilities, casting some doubt on the robustness of the evidence.

It is important to keep in mind that the absence of any empirical evidence of positive economic impacts flowing from sporting facilities does not imply that these facilities are

not worthy of public subsidies. Spectator sports are important public goods. Casual and fervent sports fans derive important consumption benefits from attending, watching, listening to, reading about and discussing sporting events. Sports teams and facilities provide the residents of cities with an important shared bond and sense of community. Many people hold the opinion that one or more high-profile professional sports teams and facilities help to make a city 'world class'. All of these factors have economic value and support the argument that public funds should be used to subsidise sports facilities. However, the proponents of public subsidies have clearly chosen to avoid this argument. Instead, they persist in arguing that public subsidies for professional sports facilities are justified by the positive economic returns that they generate.

Coates and Humphreys (1999) pointed out one possible flaw in the methodology used in retrospective academic research on the economic impact of sporting facilities and discovered a surprising result. Prior research used simple indicator variables for the presence of one or more sports facilities and teams in a city, or counts of the total number of sports facilities or franchises, when looking for evidence of economic impact. Rather than use simple indicator variables, Coates and Humphreys posited that indicator variables or counts did not capture the sports facilities and teams present in cities, and developed a vector of variables that captured the 'sports environment' in cities. This vector of variables included indicator variables for the presence of facilities and franchises, facility capacities and indicator variables for franchise entry and departure. Although few of these individual variables were statistically significant in a model of the determination of real per capita income in US cities, they were jointly statistically significant, suggesting that taken together this vector of sports environment variables explained an important part of the observed variation in real per capita income in cities. The overall impact of this vector of variables was negative, suggesting that increases in the sports environment were associated with lower real per capita income in cities with sporting facilities and franchises.

The possibility that sporting facilities and franchises have a negative impact on local economies raises several interesting questions that generally remain open at this point. The different conclusions from economic impact studies and earlier retrospective research – which found no evidence of economic impact – could be reconciled by a combination of methodological flaws in impact studies and the fact that professional sporting facilities and the economic activity that takes place in them are relatively small compared to the size of a metropolitan economy. But in order for sports facilities and the activity in them to have a negative impact on the local economy, some other factors must be at work. What are these factors and how might they work?

Siegfried and Zimbalist (2000) discuss a number of possible explanations for this negative economic impact. One likely explanation is that the spending within and near a sporting facility is a reallocation of entertainment spending that would have taken place somewhere else in a city. Instead of going to a sporting event, in the absence of a sports facility, consumers would have eaten a meal in a neighbourhood restaurant or attended a movie or play. If the money spent by consumers of these alternative entertainment activities circulates widely in the local economy, but money spent inside a sporting facility goes primarily into the pockets of highly paid players and owners who do not live in the city, and who spend only a small fraction of their large incomes, then the local economy could be made worse off. Siegfried and Zimbalist call this 'substitution in private spending', and if present, it suggests that the economic impact of sports facilities and franchises will be

felt unequally over different sectors of the local economy. Other possible explanations include opportunity costs of public spending on sports facilities leading to reduced public spending on education, public health, public safety and infrastructure that eventually reduce local income, and the notion that sport may be an amenity, like pleasant weather or low crime, that produces compensating wage differentials.

Investigation of these explanations will be an important part of the future research agenda in this area. In one recent paper, Coates and Humphreys (2003) showed that sporting facilities and franchises increased employment and earnings in the sector of the economy that contains sports teams and persons employed in sporting facilities – the amusements and recreation sector (SIC code 79) – but reduced employment and income in other related sectors like food services and hotels and lodgings. This provides support for the ‘substitution in private spending’ argument proposed by Siegfried and Zimbalist (2000).

Other important research remains to be done in this area. Economists know little about the spatial dimensions of the economic impact of sporting facilities. Do rents and house values rise with proximity to a sports facility? Does the opening of a new sporting facility and the redirection of consumer spending from other parts of a city into and around the facility harm entertainment-related businesses in outlying areas? Are sports, like access to an ocean and pleasant weather, sufficient to generate compensating wage differentials? Is the evidence of a negative economic impact of sports facilities on local economies, or at least the lack of evidence of positive economic impact, only present in the aggregated REIS data, or are these results robust to the data source used to test them? These interesting and important questions remain to be answered in future research on the economic impact of sports facilities.

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